

31, 2012. For the convenience of the user, the revised text is set forth as follows:

§ 23.55 Accelerate-stop distance.

For normal, utility, and acrobatic category multiengine jets of more than 6,000 pounds maximum weight and commuter category airplanes, the accelerate-stop distance must be determined as follows:

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§ 23.57 Takeoff path.

For each commuter category airplane, the takeoff path is as follows:

(a) The takeoff path extends from a standing start to a point in the takeoff at which the airplane is 1500 feet above the takeoff surface at or below which height the transition from the takeoff to the enroute configuration must be completed; and

(1) The takeoff path must be based on the procedures prescribed in § 23.45;

(2) The airplane must be accelerated on the ground to V_{EF} at which point the critical engine must be made inoperative and remain inoperative for the rest of the takeoff; and

(3) After reaching V_{EF} , the airplane must be accelerated to V_2 .

(b) During the acceleration to speed V_2 , the nose gear may be raised off the ground at a speed not less than V_R . However, landing gear retraction must not be initiated until the airplane is airborne.

(c) During the takeoff path determination, in accordance with paragraphs (a) and (b) of this section—

(1) The slope of the airborne part of the takeoff path must not be negative at any point;

(2) The airplane must reach V_2 before it is 35 feet above the takeoff surface, and must continue at a speed as close as practical to, but not less than V_2 , until it is 400 feet above the takeoff surface;

(3) At each point along the takeoff path, starting at the point at which the airplane reaches 400 feet above the takeoff surface, the available gradient of climb must not be less than—

(i) 1.2 percent for two-engine airplanes;

(ii) 1.5 percent for three-engine airplanes;

(iii) 1.7 percent for four-engine airplanes; and

(4) Except for gear retraction and automatic propeller feathering, the airplane configuration must not be changed, and no change in power that requires action by the pilot may be made, until the airplane is 400 feet above the takeoff surface.

(d) The takeoff path to 35 feet above the takeoff surface must be determined by a continuous demonstrated takeoff.

(e) The takeoff path to 35 feet above the takeoff surface must be determined by synthesis from segments; and

(1) The segments must be clearly defined and must be related to distinct changes in configuration, power, and speed;

(2) The weight of the airplane, the configuration, and the power must be assumed constant throughout each segment and must correspond to the most critical condition prevailing in the segment; and

(3) The takeoff flight path must be based on the airplane's performance without utilizing ground effect.

[Amdt. 23-34, 52 FR 1827, Jan. 15, 1987, as amended by Amdt. 23-50, 61 FR 5185, Feb. 9, 1996]

EFFECTIVE DATE NOTE: By Amdt. 23-62, 76 FR 75753, Dec. 2, 2011, § 23.57 was amended by revising the introductory text, effective Jan. 31, 2012. For the convenience of the user, the revised text is set forth as follows:

§ 23.57 Takeoff path.

For normal, utility, and acrobatic category multiengine jets of more than 6,000 pounds maximum weight and commuter category airplanes, the takeoff path is as follows:

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§ 23.59 Takeoff distance and takeoff run.

For each commuter category airplane, the takeoff distance and, at the option of the applicant, the takeoff run, must be determined.

(a) Takeoff distance is the greater of—

(1) The horizontal distance along the takeoff path from the start of the takeoff to the point at which the airplane is 35 feet above the takeoff surface as determined under § 23.57; or

(2) With all engines operating, 115 percent of the horizontal distance from the start of the takeoff to the point at